

### Precautions on the Sales of IPDs

- 1) The sale and/or the export of IPD products to any customer or customers located in any country other than Japan is expressly prohibited by the Agreement made and executed by and between Power Integrations, Inc. and Panasonic Corporation.
- 2) IPD products purchased from our company, or its authorized agents, hereinafter referred to as our company, shall be used only for production purposes by those parties who have duly purchased IPD products. Those who have purchased IPD products shall not use such IPD products in unmodified form for re-sale, loan, or sample shipment for evaluation purposes to any other parties.
- 3) If a party who has duly purchased IPD products subcontracts its production to any other parties, including its subsidiaries or any other third parties inside and/or out of Japan, and the IPD products are consigned to such subcontracting parties thereat, such party is obligated to monitor and control the quantity of IPD products to prevent any of the aforementioned re-sale, loan or sample shipments from taking place.
- 4) In the event that any actual or threatened breach or violation of any of the above mentioned 1, 2, or 3, has occurred or is about to occur, our company will hold all shipments of IPD products and may request the party alleged to be responsible for such occurrence for necessary.

Note) The products of MIP50□, MIP51□, and MIP7□□ are excluded from above-mentioned precautions, 1) to 3).

Attached table "IPD availability by customer"

Parts No.			Companies/areas to which products can be sold	Companies/areas to which products cannot be sold	Application
MIP0□□□ MIP3□□□ MIP9L□□	MIP1□□ MIP4□□□	MIP2□□□ MIP9A□□	<ul style="list-style-type: none"> <li>· Japanese companies in Japan</li> <li>· Japanese companies in Asia (50% or more owned)</li> </ul>	<ul style="list-style-type: none"> <li>· Companies in European and American countries</li> <li>· Asian companies in Asia</li> <li>· Other local companies</li> </ul>	<ul style="list-style-type: none"> <li>· For power supply</li> <li>· For DC-DC converter</li> </ul>
MIP55□ MIP9E□□	MIP803/804	MIP816/826	<ul style="list-style-type: none"> <li>· Japanese companies in Japan</li> <li>· Japanese companies in Asia (50% or more owned)</li> <li>· Asian companies in Asia</li> </ul>	<ul style="list-style-type: none"> <li>· Companies in European and American countries</li> <li>· Other local companies</li> </ul>	<ul style="list-style-type: none"> <li>· For power supply</li> <li>· For EL driver</li> <li>· For LED lighting driver</li> </ul>
MIP50□	MIP51□	MIP7□□	<ul style="list-style-type: none"> <li>· No restrictions in terms of contract</li> </ul>	<ul style="list-style-type: none"> <li>· No restrictions in terms of contract</li> </ul>	<ul style="list-style-type: none"> <li>· For lamp driver/ car electronics accessories</li> </ul>

### Inquiry

URL: <https://www.semicon.panasonic.co.jp/semi-spt/general/>

To new customers:

Please register your user account, log in and access to the "Inquiry" in the solution category of the Semiconductor technical support. Fill in the new inquiry form.

# 《 Line-up of IPD for power supplies 》

★ "Frequency jitter function" is built into the product number written by a red character.

Control Method	Series	Product type	Mass Production (Package)						Output Power (Reference)	Electrical characteristic				Application		Protection function			Additional function.
			TO-220	DIL-8	TO-220C		U-Teyp			ILIMIT [A]	fosc [kHz]	Ron [Ω]	No load power consumption (AC100V)	Flyback	Chopper	Over-Temp.	Over-voltage	Over-load	
					SMD	Standing	SMD	Standing											
PWM control+ intermittent oscillation control	Three terminal IPD saving energy at standby	MIP2E1D	○	○	○	○	○	○	to 7W	0.375	100	60mW	○	△ It might not be able to be used under particular Power supply specification	With Latch	-	Timer in termittent	-	
		MIP2E2D	○	○	○	○	○	○	5W to 10W	0.5									15.0
		MIP2E3D	○	○	○	-	○	-	10W to 20W	1.0									8.5
		MIP2E4D	○	○	-	-	-	-	15W to 30W	1.5									5.8
		MIP2E5D	○	-	○	○	-	-	20W to 40W	2.0									4.0
		MIP2E7D	○	-	-	-	-	-	40W to 60W	3.0									2.6
		MIP2E9N	○	-	-	-	-	-	60W to 90W	2.5									1.7
		MIP2E9D	○	-	-	-	-	-	60W to 90W	4.5	1.7								
		MIP3E1	-	○	-	-	-	-	to 7W	0.375	18.0	100	40mW	○	△ It might not be able to be used under particular Power supply	With Latch	-	Timer in termittent	Soft-start
		MIP3E3	○	○	-	-	-	-	8W to 15W	0.8	8.0								
		MIP3E3S	○	○	-	-	-	-	10W to 20W	1.0	6.0								
		MIP3E4	○	-	-	-	-	-	15W to 30W	1.35	5.2								
		MIP3E5	○	-	-	-	-	-	20W to 40W	1.8	3.8								
		MIP3E7	○	-	-	-	-	-	40W to 60W	2.7	2.6								
	MIP2L3	○	○	-	-	-	-	8W to 15W	0.8	8.0	100	40mW	○	△ It might not be able to be used under particular Power supply specification	Self-return	-	Timer in termittent	*Input correction *Soft-start	
	MIP2L4	○	○	-	-	-	-	15W to 30W	1.35	5.2									
	MIP2L5	○	-	-	-	-	-	20W to 40W	1.8	3.8									
	MIP2L7	○	-	-	-	-	-	40W to 60W	2.7	2.6									
	High function IPD saving energy at standby	MIP2G4	-	○	-	-	-	-	to 20W	1.0	100	40mW	○	×	With Latch	latch with external circuit added	Timer in termittent	Input correction Remote ON/OFF	
		MIP2G5	○	7pin	-	-	-	-	to 30W	1.35									3.8
MIP2G7		○	7pin	-	-	-	-	to 40W	1.8	2.6									
IPD for small charger and small adapter	MIP2F1	-	○	-	-	-	-	to 3W	0.25	100	MIP2Fx=20mW MIP2Kx=30mW	○	×	With Latch	Latch	Foldback	Input correction		
	MIP2F2	-	○	-	-	-	-	to 5W	0.35									31.0	
	MIP2K2S/2K2	-	○	-	-	-	-	to 5W	0.225/0.35									20.0	
	MIP2F3/2K3	-	○	-	-	-	-	to 8W	0.5									16.5	
	MIP2F4/2K4	-	○	-	-	-	-	to 12W	0.7									10.0	
	MIP2F5/2K5	-	○	-	-	-	-	to 15W	1.0									7.0	
Standby power supply	MIP2M2	-	○	-	-	-	-	to 5W	0.35	67	30mW	○	×	With Latch	latch with external circuit added	Timer in termittent	*Input correction *Detection *Soft-start		
	MIP2M4	-	○	-	-	-	-	to 12W	0.8									16.3	
RCC Quasi- resonant + intermittent oscillation control	IPD for dummy resonance power supply	MIP411	-	○	-	-	-	-	to 6W	0.45	-	50mW	○	×	With Latch	latch with external circuit added	Timer intermittent or latch mode	Soft-start	
		MIP412	-	○	-	-	-	-	5W to 10W	0.6									13.6
		MIP414	-	○	-	-	-	-	10W to 15W	1.0									4.9
		MIP415	○	7pin	-	-	-	-	10W to 20W	1.35									3.8
		MIP417	○	7pin	-	-	-	-	15W to 25W	1.8									2.4
		MIP418	○	7pin	-	-	-	-	25W to 40W	2.7									2.0
		MIP419	○	7pin	-	-	-	-	40W to 50W	3.5									1.6
Intermittent oscillation control	IPD for standby power application	MIP289	-	○	-	-	-	-	to 5W	0.255	44	31.2	40mW	○	○	Self-return	-	-	
		MIP290	-	○	-	-	-	-	to 2W	0.15									
		MIP291	-	○	-	-	-	-	to 4W	0.22									
	IPD for non- insulating power supplies	MIP282	-	○	-	-	-	-	to 200mA	0.36	44	16.0	40mW	×	○	Self-return	-	-	
		MIP283	-	○	-	-	-	-	to 300mA	0.5									
PWM control+ intermittent oscillation control	IPD for LED application.	MIP353	-	○	-	-	-	-	to 200mA	0.5/0.4/0.3	66/44/25	100mW	×	○	Self-return	Latch	Timer in termittent	*Limit/fosc --Possible to switch 3 stages. *Input correction *Photocoupler is unnecessary.	
		MIP355	-	○	-	-	-	-	to 400mA	1.0/0.8/0.6									12.0
		MIP551	-	○	-	-	-	-	to 10W	0.5									6.0
-	-	MIP552	○	7pin	-	-	-	-	to 30W	1.0	-	-	-	-	-	-	Brightness control		